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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/017,543	12/13/2001	Arlen L. Roesner	10014774 -1	8101

7590

10/24/2002

HEWLETT-PACKARD COMPANY
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EXAMINER

CHERVINSKY, BORIS LEO

ART UNIT

PAPER NUMBER

2835

DATE MAILED: 10/24/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/017,543

Applicant(s)

ROESNER ET AL.

Examiner

Boris L. Chervinsky

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 24 September 2002.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-30 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-30 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 13 December 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- ☐ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____
- ☐ Interview Summary (PTO-413) Paper No(s) _____
- ☐ Notice of Informal Patent Application (PTO-152)
- ☐ Other: _____

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1-4, 6-9, 22-25, 27-30 are rejected under 35 U.S.C. 102(a) as being anticipated by Green et al.

Green discloses the assembly comprising a thermal interface disposed between a heat sink 42 and a heat generating electronic component 41, the thermal interface having a carrier 44 made of either metal foil or thermally conductive plastic sheet, the carrier having a layer of a phase-change material on one side and a layer of a pliable thermal compound on the other side 45, 46; the paraffin-based phase change materials and thermally conductive grease compounds are widely used and known as indicated in the "Background Of The Invention" section of the cited prior art reference.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

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4. Claims 5 and 26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Green et al.

Green discloses the claimed invention except for specific materials such as copper, gold, silver and aluminum. It would have been obvious to one having ordinary skill in the art at the time the invention was made to have carrier made of these materials, since it has been held to be within the general skill of a worker in the art to select a known material on the basis of its suitability for the intended use as a matter of obvious design choice. *In re Leshin*, 125 USPQ 416.

5. Claims 10, 11, 13-15, 17-21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Green et al. in view of Tzeng et al.

Green discloses the claimed invention except a removable protective cover. Tzeng et al. disclose the thermal interface having a pressure sensitive layer 13 covered by a removable protective cover. It would have been obvious at the time the invention was made to a person having ordinary skill in the art to use removable protective layer as disclosed by Tzeng in the structure disclosed by Green as to protect the pliable thermal compound layer prior to installation.

6. Claim 16 is rejected under 35 U.S.C. 103(a) as being unpatentable over Green et al. in view of Tzeng et al.

Green discloses the claimed invention except for specific materials such as copper, gold, silver and aluminum. It would have been obvious to one having ordinary skill in the art at the time the invention was made to have carrier made of these materials, since it has been held to be within the general skill of a worker in the art to select a

known material on the basis of its suitability for the intended use as a matter of obvious design choice. *In re Leshin*, 125 USPQ 416.

7. Claim 12 is rejected under 35 U.S.C. 103(a) as being unpatentable over Green et al. in view of Tzeng, as applied to claim 10, and further in view of Lee et al.

Green discloses the claimed invention except a removable protective cap. Lee discloses the removable protective cap 56 to protect thermal grease 40 prior to installation. It would have been obvious to one having ordinary skill in the art at the time the invention was made to have the protective removable cap as disclosed by Lee et al. in the device disclosed by Green et al. in order to protect pliable surface or thermal grease.

Response to Arguments

8. Applicant's arguments filed 09/24/02 have been fully considered but they are not persuasive. The applicant's argument that the Green shows the layers of phase change material on both sides of the carrier but not just on one side and the pliable, thermal material on the other side as claimed in the instant application is not convincing since the dry film phase change material is considered to be pliable and thermal material by definition, therefore the rejection is proper. In response to applicant's argument that the Green reference eliminates silicone grease it must be noted that in fact Green indicates: "In certain applications, heat spreaders may be employed along the thermal path to achieve certain heat dissipating objectives, and interface coatings of the present invention may be employed along the surfaces of heat spreaders as well." (col. 2, lines 33-37). In response to applicant's argument that there is no suggestion to combine the references, the examiner recognizes that obviousness can only be established by

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combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either in the references themselves or in the knowledge generally available to one of ordinary skill in the art. See *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988) and *In re Jones*, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992). In this case, the protective removable covering as disclosed by Tzeng et al. can be and, most likely, should be provided in Green disclosed structure, when pliable thermal compound is used on at least one side of the substrate.

Conclusion

9. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Boris L. Chervinsky whose telephone number is 703-308-5429. The examiner can normally be reached on 8-5.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Darren E. Schuberg can be reached on 703-308-4815. The fax phone numbers for the organization where this application or proceeding is assigned are 703-872-9318 for regular communications and 703-872-9319 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-5115.

BORIS CHERVINSKY
PRIMARY EXAMINER

A handwritten signature in cursive script, appearing to read "Boris L. Chervinsky", written in black ink.

October 22, 2002